AB051. SOH23ABS_010. Surgical priming improves operative performance in surgical trainees: a crossover randomised control trial

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Background: Surgeons have been reported to practice performance-based medicine. Comparisons between surgery and surgeons to elite sports and athletes have often been made in recognition of similarities in the performance science entrenched across these professions. The incorporation of practices between careers has been noted; the use of preparatory mental techniques prior to performance is well recognised in the literature. The use of simulation as a tool to hone mental focus, and dexterity in surgery has been limited to minimally invasive and laparoscopic procedures to date. The aim of this study was to evaluate the impact of a surgical warm-up using a virtual reality simulator on operative performance.

Methods: A single-blinded cross-over randomised control trial in a single tertiary Orthopaedic training centre was carried out. Orthopaedic trainees were recruited, and each morning participants rostered to theatre were randomised to either undergo a simulated surgical procedure on a virtual reality simulation system prior to their first case as primary operator (priming arm), or to perform their usual preparatory routine for surgery (control arm).

Results: Over three study periods a total of 151 datapoints were collected, with 49 matched datapoints across priming status and procedural level of difficulty. Subjective assessment tools consistently demonstrated improved operative performance by participants following surgical priming (P=0.001).

Conclusions: This study highlights that introduction of preoperative priming to improve operative preparation, and optimizes operative performance. This has not only implications for improved resident training, but also signals towards beneficial downstream effects on patient outcomes, and theatre list planning.

Keywords: Warm-up; surgical training; performance; priming; simulation

Acknowledgments

Funding: None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

doi: 10.21037/map-23-ab051

Cite this abstract as: Feeley A, Feeley I, Merghani K, Sheehan E. Surgical priming improves operative performance in surgical trainees: a crossover randomised control trial. Mesentery Peritoneum 2023;7:AB051.